

# THE LITTLE UNITY.

→ \* TENDER, ÷ TRUSTY ÷ AND ÷ TRUE. \* ←

VOL. I.

CHICAGO, FEBRUARY 16, 1882.

No. 21

## GALLS.

C. H. CLARK.

Most of the protuberances which are so noticeable in winter on the bare stems and twigs of trees and shrubs, are made by insects. The parent insect deposits an egg in the tissues of the plant, and it is thought that the swelling is occasioned in some cases by a drop of poison which she injects with the egg, in others by the gnawings of the hungry larva. This larva usually transforms to the perfect insect within the gall. You will find much interest added to a winter walk in the country, if you notice and collect all the different kinds of galls which you see. But here I must caution you that when you intend to combine lessons in natural history with your walks, you must wrap up much more warmly than if you are merely hastening from one place to another. Unless well protected, one is apt to become chilled while stopping to poke and peer and watch and listen. If successful in your findings you are tempted to remain out a long while, and if unsuccessful you dislike to return home until you have found something to reward you for going out.

Some of the galls will be empty, pierced with a hole or holes from which the insects have escaped. Others will be fresh and perfect, and by carefully cutting slices off these we can see the little larva inside; or we may rear the perfect insect by placing the end of the twig in moist earth or sand, and covering it with a tumbler or bottle. It by no means follows, however, that the insect which comes out from the gall resembles the one whose sting produced it, and this for several reasons. We are told in an interesting article on "Galls and Their Architects," in the *American Entomologist*, volume I, that besides the true gall-makers, there will be obtained from almost every gall one or two, and sometimes one or two dozen, perfectly distinct insects. These will belong to two different groups, and it will sometimes require considerable knowledge of entomology to distinguish them from the author of the gall that is being experimented upon. The two groups above referred to may be divided as follows: First group, guest-insects; sometimes very closely allied to the gall-maker, sometimes as different as it is possible to conceive. These guest-insects usually do not molest the gall-maker, but live quietly by themselves in a different part of the gall, which provides food enough for both. "But in certain other cases, the larva of the guest-fly, instead of living in a house of his own, makes his way to the house of the gall-making larva, and after having destroyed him, takes possession of his tenement."

Second group: Parasitic insects. These are usually much more numerous, both in the number of kinds and

the number of individuals, than the guest insects. Certain species of them attack the guest insects, and other species destroy the gall-maker. There is still another reason why the insect hatched from a gall may not resemble the one that laid the egg. It has recently been discovered that in some oak-galls the little gall-larva turns into an insect quite unlike its own mother, and makes a different kind of gall from that from which it was hatched, perhaps in a different part of the tree. For example, if the parent gall is on a twig, that of the child may be on a leaf, but *its* child may resemble the grandmother, and make a similar gall on a twig. Oaks, willows, and rose-bushes will probably best reward your search for galls, but other trees, or even dead stalks of herbaceous plants, may furnish you with good specimens.

## SMOOTH-CAP MOSS.

As soon as the snow melts we must look for the common smooth-cap moss, which is in good condition in the winter and early spring. It grows on the ground, usually in shady places. The flowering stems are erect, and about an inch tall, and the fruit-stalks are about half an inch long; the leaves are linear or lanceolate, about three sixteenths of an inch long, and crisped or curled when dry. The capsule is cylindrical, an eighth of an inch long, nearly but not quite erect. The lid is hemispherical, with a long slender beak, and when the lid falls off the opening of the capsule is covered by a white disk, to which the tips of the short teeth are attached. The cap is slender, smooth and split up on one side.

The color of the capsules and fruit-stalks varies from red to brown or yellow, according to their age or exposure to the sun. The height of the moss also varies with the situation.

C. H. C.

## GOOD MANNERS.

### II.

DON'T INTERRUPT.

These words have a very familiar ring to my ears, I heard them so often when I was a child. Even now, if while I am speaking I hear some child so addressed, I involuntarily stop short for a second. I feel guilty! And well I may feel so; for, though I suppose all children interrupt more or less, I really don't believe any child does so more than I did. I can't remember any good that I ever got by it; and I very well remember many a snub at the time, and many a "talking-to" afterwards when I was alone with my parents. "How can you make yourself so disagreeable?" "You make me feel so ashamed by your rudeness." "It is so stupid of you

not to notice when you come into a room whether people are speaking or not." These are samples of the remarks I drew on myself, and that made me feel I was indeed stupid, for my impetuous interruptions never succeeded in obtaining me a hearing.

There is more than one way of interrupting; but mine was, rushing into the room either to ask for something or to tell something that I considered to be of vast importance.

Now, I fancy that you interrupt just in the same way. You have something to say that you want answered in a hurry, and what the others are saying cannot seem to you to be as important. Possibly it is not. Far be it from me to pretend that the talk of the grown-up people is always important. But at the moment you burst into the room you do not know whether the particular conversation that you interrupt is so or not. It is not difficult, when you come into the room and find some one speaking, to give a quick look at father or mother, go straight up to one of them, and wait expectantly. People will understand at once that you have something to say, and most people are as anxious to hear news as you can be to tell it. You will get a quicker hearing than if you interrupt, for then you will be checked. You will be reprov'd for bad manners. The interrupted person will be entreated to continue what he was saying. Perhaps he will continue. If he is very good-natured, he will say, "Oh, no; let us hear what the child wants." Even if he does that, and you cannot be sure that he will, you will have lost more time than if you waited at the first.

There are always two ways of doing the same thing—the pleasant way, and the unpleasant way. Why choose the unpleasant? The pleasant one is usually the most successful. Never yet was any one the loser by courteous manners; and by these I mean such as are pleasant to, and thoughtful of, those around us. Ill-bred children can never be pleasant children. To be pleasant in your manners often requires what is very unpleasant to yourself.

Good manners bring the great law of unselfish conduct down to the little trifles of daily life. It may not be pleasant to you to wait when you are particularly impatient, but neither do others find it pleasant to wait for your interruptions. Which of the two is to do what is pleasant for the other and unpleasant for himself? According to the unwritten law of good manners, it must be *you* in this case.

Good-breeding is the art of using common sense about trifles. If you interrupt some one, why should not I interrupt you, and be interrupted again by a third and fourth person? And then what chance could any of us have of being listened to? It would be impossible to get on at all. Our conversation would be just as agreeable and sensible as the barking of a number of dogs.

S. M. MUNDY.

Close folded, safe within the sheltering seed,  
Blossom and bell and leafy beauty hide,  
Nor icy blast, nor bitter spray they heed,  
But patiently their wondrous change abide.

—Celia Thaxter.

## THE LITTLE UNITY.

40 MADISON STREET, CHICAGO.

One copy, per year. 50 cts.  
To subscribers for UNITY, or twelve to one address, each, 35 cts.  
To Clubs or Sunday Schools, single or in quantity - 25 cts.

ELLEN T. LEONARD, Editor.

Departments: Associate Editors:  
WHAT TO SEE. - Miss Cora H. Clarke, Jamaica Plains, Boston, Mass.  
WHAT TO DO. - Mrs. K. G. Wells, 155 Boylston St., Boston, Mass.

Communications for the Editor to be sent to Hyde Park, Ill.; for the Departments, as above.

Entered at the Chicago Post Office as second-class matter

### A VALENTINE.

The children!  
From out whose wise  
Unguarded eyes  
The blessed youth of the heart may shine,  
Whose voices ring  
With the impulse they bring,  
And hold our own youth with their quickening,—  
These shall to-day be my Valentine!

### TALKING TIMES AND THINGS TO DO.

The very fact that we had a name, seemed to put new life into our meetings. It brought us other members. It gave spirit, and to each a sense of being, or belonging to, something outside of himself. It was good to see how truly each felt included in the general name, agreeing that this was the one which mothered them all, and most fully expressed the idea upon which the meetings were formed. Being industrious had now become an honorable pleasure; and those who had been only straggling attendants, looking on and listening, now considered themselves enrolled under the banner of "Industry," and woke up to clamor for something to do. The homes of nearly all the children were those of neither wealth nor poverty, but in every one there must be work and saving, with each inmate, to supply the needs of every day life and still leave time for those other needs that are met by wise and happy recreation. "Work while you work, and play while you play" is a good motto, but don't let your work be devoid of pleasure, nor your play altogether free from control. Quiet, well-placed industry is like the adjustable key a jeweler uses, with which he can fit and wind up watches of any size. Apply it to the objects you wish to gain, one by one; think about them, pick up information about them, spare yourself no reasonable labor to carry out your thought and apply your information. You will see that it will set the works to running; and as by the regularly wound machinery of a watch the hours of the day are faithfully reported, so by your rightly cared-for faculties the objects of your life may be brought out one by one, to make up the full and perfect whole.

We do not always realize that our good things in this world are all transitory and to be enjoyed promptly, each in its season.—"Sharon," in *Wide Awake*.

I had rather men should complain of my small hopes than my short performances.—*Bishop Hall*.

## WHAT THE BABY FOUND.

Barefoot baby, three years old, found sister's bureau drawer open, and with a sudden air of absorbing interest climbed into a chair and began to explore. Diving under all the things, overturning and stirring up in a business-like way, she brought forth a valentine with a big red heart in the middle. This she discovered to be movable, by pulling a string at the bottom, which showed behind the heart a verse and a lovely little picture. Just then her sister came in, and baby greeted her with,—"I didn't know you got such a pitty new heart, wiz a dear little picture and words in 'em!" "O you naughty, miserable little mischief! What a muss you've made! Have you torn it?" cried sister angrily. Then stopping suddenly, and laughing with hearty repentance as she looked in baby's grieved face, while the little one's words came back to her, she said: "Bless you, dear; I need a 'pitty new heart' badly enough, if I can be so cross, when it was my own fault that the drawer was left open. I will just pin this up on the wall and keep it there, to make me remember what to have in my 'pitty new heart,' and it will be the best valentine I've had this year."

## WHAT TO READ.

From Ladies Commission, No. 7, Tremont Place, Boston, Mass.

**THE LITTLE DUKE.** C. M. Yonge. Macmillan & Co. 75 cents.

"The Little Duke" is the story of a boy who lived many hundred years ago. When he was only eight years old he became Duke of Normandy, and we are told how the King of France, who was his enemy, got him into his power, and kept him a prisoner for several months. At last the Little Duke made his escape, hidden in a bundle of straw, and reached Normandy again in safety. Most of the story is true. The book is written by Miss Yonge, and can scarcely be too much praised. Suitable for children from ten to thirteen.

**DAME NATURE AND HER THREE DAUGHTERS.** Translated from the French of X. B. Saintine. Hurd & Houghton, \$1.25.

A grandfather tells his grandchildren and their dolls charming stories about plants and animals. There are pretty legends introduced, and interesting anecdotes of animals. The curious metamorphoses of certain insects are described, and the children are told something of mineralogy, in the form of a fairy tale. It is a delightful book for children from nine to thirteen.

**BONNIE SCOTLAND.** By Grace Greenwood. J. R. Osgood, Boston. Price, \$1.50.

This is a collection of stories about some of the heroes of Scotland, whose names are, or should be, familiar to every boy and girl. Robert Burns, William Wallace, Robert Bruce, Mary, Queen of Scots, and Sir Walter Scott, are the most famous. Most of the stories are very pleasantly told. "Robert Burns," "Little Margery and Her Kitten," and "Sir Walter Scott," are especially interesting.

Suited to boys and girls from twelve to sixteen.

If the power to do hard work is not talent, it is the best possible substitute for it.—*Jas. A. Garfield.*

## OAK-PRUNERS.

Walking in the woods at this season, we shall notice a large number of fallen branches on the ground. It is not always the wind alone which snaps them off. A beetle-grub, whose home is in the branch, eats it across, leaving only enough wood and bark to hold it to the tree until a high wind arises, when the branch breaks off and falls to the ground. The grub has in the meantime withdrawn into his burrow in the branch, and plugged up its end with fibers of wood, so as not to be shaken out by the violence of the fall. He lives in the branch all winter, and comes out as a beetle the following June

"Tender-handed stroke a nettle,  
And it stings you for your pains;  
Grasp it like a man of mettle,  
And it soft as silk remains."

## BLUE JAYS.

One midwinter I cleared away the snow under an apple-tree, near the house, and scattered some corn there. I had not seen a blue-jay for weeks, yet that very day they found my corn, and after that they came daily and partook of it, holding the kernels under their feet upon the limbs of the trees and pecking them vigorously — "*Locusts and Wild Honey.*"

## A ROOF-GARDEN.

How should you like to see the roof of your house all overgrown with grass and flowers? That is what I saw in Norway one summer.

One roof was covered with little wild pansies—perhaps you would call them ladies' delights or Johnny-jump-ups—on another there were ever so many lovely blue-bells and on still another some big white daisies.

These houses were very pretty, and would be charming in a picture; but I am afraid they were not very comfortable to live in, for they were very small, sometimes having only one room, and I saw one without even a single window. So I do not think we should like to change houses with these poor Norwegians, even for the sake of having flowers growing wild on our roofs.

E. Q. S.

"Unity" Sunday School Lessons—Series XII.

THE MORE WONDERFUL GENESIS;  
OR  
CREATION UNCEASING.

BY H. M. SIMMONS.

## LESSON VI.

THE AIR "FIRMAMENT" AND ITS WATERS.

"THE SECOND DAY."

Genesis I: 6-8.

The "first day" of "Genesis" leaves only a watery world. Beneath was "the face of the waters." Above also; for, in the ancient thought

this original element prevailed everywhere. God laid "the beams of his chambers in the waters," and in the heavens were the reservoirs of the rain. Naturally, therefore, the next act for the creation of dry land, was to separate and protect the earth below from the waters above. This is the work of "the second day." "God made the firmament, and divided the waters which were under the firmament from the waters which were above the firmament." The Hebrew word for "firmament" means something either beaten out or spread out; and in the writer's mind may have referred either to a solid dome, or more likely to a canopy or tent,—as the sky is often figured in the Bible. But at any rate it was the world-roof, created chiefly to hold out "the waters above," but also holding sun, moon and stars as lights beneath.

#### OUR ATMOSPHERE A ROOF.

We have seen how much the writer was mistaken. The "lights" are other vastly greater worlds; the "firmament" that holds them is no roof, but boundless space; the "waters" are not "above" it, but only in its lowest stratum,—our atmosphere. Yet this air, though but the thinnest film beneath the sky firmament, is a sort of roof, so curiously wrought and so cunningly holding up the waters, that we may notice it in the comparison with the "second day."

The air seems a nothing; we hardly feel it, and cannot see it. Yet it is as real as any rafted roof. The professor weighs it; when it moves it pushes ships; in tornados it crushes the stoutest roofs man can make. And even far above the earth, where it is many times thinner, it still, like a protecting roof, checks and almost stops the meteors that rush in to it from outer space, and is hard enough to set them on fire by the blow, or heat them white hot in a second.

#### HOLDING UP THE WATERS.

And how curiously it holds up the waters! You cannot see them, but they are everywhere in it. They are even in the air in your room, and you have but to bring in a cold stone, to see them gather on it in a thin film thickening into drops. So the earth, which is a larger stone, gathers them out of the clear air every night in dew. Dr. Dalton estimates that in England dew enough falls every year to make a coat of water five inches thick. This air is, without walls, always holding up vast floods of water in this invisible state we call vapor.

In visible state too. A cold air blowing into a warm one contracts and collects this thin vapor into mist specks floating over the meadow as fog. For miles above the meadows, by the same process, the fogs are ever gathering as clouds. Curious cisterns, whose walls are only water and foundations only air, yet floating in the breeze or tumbling in the tempest without spilling a drop. For this air holds them up as really as the story's fancied roof. Without air these dainty mist spheres would fall to the earth, sometimes half a mile in a second. They do ever tend to fall; but the air resists them much or little according to their smallness. A water drop one thousandth of an inch in diameter could fall only two inches in a second in still air. But generally the air is not still, and often rising more than that, so that the water drops have to become much larger before they fall at all. Even great drops, one-fourth of an inch through, could fall in air only thirty-four feet in a second. This air really holds up the cloud cisterns like a roof, checks the rain-drops, and holds back the hail-stones which would without it kill us like bullets.

#### A ROOF FOR SHADE AND SOUND.

But this atmosphere is roof in other ways. Though so clear that its fifty miles and more of thickness seem to hide nothing, it yet shades from the sun by day, and gives us the beauty of the dawn and evening. Without it sunlight would be blinding glare, every shadow blackness, and day pass at once into night. But by refraction and reflection this air diffuses the light like ground glass, and hanging over the earth like a vast sun-shade, turns the dazzling brightness into the soft splendor of the day, and extends the day in the twilight. It decomposes the light too, spreading the sunset colors over the sky-ceiling, and turning the cloud-cisterns into frieze and ever shifting decorations glorious with crimson, and gold, like a cathedral roof.

And how much better than any cathedral roof does it gather the sound, and send music to our ears. Take the air out of the church and the singing would be silent, and the organ only jar us. The roof aids, but the air makes the sound. Without this atmospheric roof, the roar of the sea, the music of birds and voices of friends would cease, and the earth become dumb.

The air is indeed a roof, shading for our work and adorned for our worship;—a temple dome covering all the earth, resounding all the day with the divine music of life, and forever frescoed afresh by the hand of the Creator for the matin and vesper service.

#### LESSON VII.

### THE "AIR FIRMAMENT" AND ITS WATERS.

(Continued).

#### A ROOF FOR WARMTH.

See further how the atmosphere aids us in warmth. Like a roof it

moderates the sun's mid-day heat; like a roof it retains the day's heat and warms by night. We have but to go up a mountain or in a balloon, partly out of the air, to find by freezing how it warmed us. Like a great blanket, it cosily wraps the earth about. Without this air-covering to moderate extremes, our ponds would well nigh boil at noon, and would freeze every summer night.

#### EVEN BURNING TO WARM US.

But this air roof warms still more wondrously than by retaining the sun's heat. It makes our artificial heat. Without air every fire would instantly go out, and no one could be built again. We speak of wood and coal as our fuel; but even more truly air is the fuel, and we are burning it up all the time. We open the draft to get more air into the stove. We add the chimney to lamp, house and factory, to send air in swifter current to the fire. The blacksmith blows the bellows with his arm, and the blast furnace blows them with engines of 1,000 horse-power, only to faster feed the fire with air. This air seems the real fuel which warms our houses and works our factories.

Warms and works in our bodies in the same way. Breathing is only a burning, the doctors say, producing warmth and force within, just as fire without. Lungs are bellows to keep up the draft. Breath is ever burning us. Give us air, and we keep warm and work. Shut off the air and we grow cold, and go out like any fire.

The chemist tells us, in explanation, that air is one-fifth oxygen, which in its greedy union with various substances makes fire and heat. Pure oxygen makes far fiercer fire, kindling again a blown out candle, and in the flame burning iron wire like string. Our air is this oxygen diluted with four times as much nitrogen, and so burns more gently. It unites with carbon in fuel and flesh, heating stove and body alike, and producing carbonic acid gas, which passes off in smoke and breath.

How much more curious this air roof than any tent-cloth! Through the dull warp of nitrogen is woven everywhere this wondrous woof of oxygen;—all unseen, yet without whose covering no fire nor man could live an instant. Not only a roof which warms by its shelter, but which is ever burning to make fire and life within.

#### HOW BUILT?

And still the wonder grows, when we see how this roof was built, and is still built as fast as burnt. This oxygen was once the most abundant element in the earth. But in those chemical unions and creations, which we saw in the last lesson, it combined with nearly everything else in countless compounds. Some, however, was left over, and mingling with this nitrogen and other uncondensed gases, remained above the earth as an atmosphere. That atmosphere was, however, very different from ours. For a long time the waters were all held in it in vapor, as Jupiter's seem to be now. After the waters had condensed to form the oceans, the air was still heavy with carbonic acid; for all the carbon had united with oxygen. In such an air we could not have lived, nor our fires burnt. There was too little oxygen, and too much of the poisonous carbonic acid.

But when, in the lapse of ages, plants were created, this poison was made their very food. They absorbed, digested, decomposed it, packed away its carbon in woody fiber, and gave out its oxygen to the air. So age after age trees grew, far more abundant than now, steadily sucking in the poisonous acid and storing its carbon for the coal beds, slowly sending out the oxygen to its present proportion in the air. So our atmosphere is like a roof in another way,—it has been built from the trees.

#### AND FOREVER REBUILT.

Is still being built in the same way. Our fires and breathing are ever burning it,—still worse, are ever making this deadly acid. But the trees are ever working as creative arms, repairing the damage. Their busy fingers cunningly pick the unseen poison from the air. Still more cunningly they divide each particle that slays into two that save, giving us carbon for fuel and food, and oxygen for fire and breath; making timber for our little roofs, and repairing this earth-roof that shelters all.

The waters above it are also forever created afresh. The creative hand of gravity, which out of vapor globes the rain drop and draws it down, by the same principle heats the sun, and thereby reverses gravity, turning the sea back to vapor, and lifting the waters above the firmament again. With what power! One tells us that to lift back to vapor in the upper air a rain which covers the United States only one-tenth of an inch, requires more power than all the steam-engines in New York, Philadelphia and Chicago could produce, running day and night, for a century. Nor is this water merely lifted, but purified, filtered, literally distilled, and, as it were, created anew.

So "the firmament" and "waters above" it are an unceasing creation. Ever, as on that "second day," the Divine hand is rearing the wondrous roof,—shade and screen by day, gorgeous ceiling in the twilight, warming cover through the night, and celestial fire to heat our houses in winter, and our bodies to life.